

PETITION OF WATERSIDE POWER, LLC FOR A )  
DECLARATORY RULING THAT NO CERTIFICATE OF ) PETITION 836  
ENVIRONMENTAL COMPATIBILITY AND PUBLIC )  
NEED IS NECESSARY FOR THE WATERSIDE )  
PERMANENT 69.2 MW PEAKING PROJECT IN )  
STAMFORD, CONNECTICUT )

## I. INTRODUCTION

2. In this filing, Waterside has come before the Council to request authority to convert its existing temporary operations to a permanent peaking facility. This approval would allow the Project to provide long-term peaking capacity to the Connecticut Light and Power Company (“CL&P”) pursuant to a contract approved by the Connecticut Department of Public Utilities (“Department”) in Docket 07-04-27. In the fall of 2006 in response to a Request for Proposal for long-term capacity issued by the Department, Waterside submitted a bid based on potential permanent turbine configuration. On April 23, 2007, the Department selected a bid from Waterside which was based on the conversion of the existing mobile unit turbines into a

permanent project in Docket 05-07-14 PH02. The permanent project continues the use of the same turbine unit configuration as the temporary units with limited revisions necessary to convert the existing operations into a long-term facility.

3. The Petition presents certain limited revisions to the existing operations previously approved by the Council which are necessary to allow the Project to become a permanent peak generating resource. On previous occasions, the Council has considered and approved the temporary operations of the Waterside Project as a necessary component of the State's energy supply which did not have a significant adverse impact on the environment including 1) Petition 772 for revisions necessary to allow Waterside to participate in the Locational Forward Reserve Market approved by the Council on August 27, 2006; 2) Petition 658 for minor revisions which added elements of noise mitigation and extended hours of operation approved by the Council on June 23, 2004; 3) Petition No. 617E requesting approval to operate June 1 through September 30 approved in 2003; and 4) Petition No. 556 for operation in 2002 for the same time period of that year.<sup>1</sup> In each of these approvals, the Council has found that the Project had no substantial adverse environmental impact and represented a necessary energy supply for the State of Connecticut. The record of those Petitions were incorporated by the Council in this proceeding by administrative notice.

4. With the limited extent of those changes presented in this Petition, the Waterside Project presented to the Council for approval as a permanent facility is consistent with the need for long-term peaking facilities in Connecticut without significant adverse environmental impacts. The changes presented in this Petition do not create new adverse environmental impacts. Instead, the environmental impact assessments presented to the Council related to the temporary facility

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<sup>1</sup> The Council issued its decision in Petition No. 617E on May 8, 2003, and on April 29, 2002 in Petition 556.

remain largely unchanged due to Waterside's determination to maintain the use of the existing turbines on a permanent basis. Waterside's contract awarded through the RFP relies upon the same turbine units who have provided temporary peaking services at the existing Project site to date.

5. Waterside's petition in this docket for status as a permanent peaking facility has been filed based on its selection by the Department to operate as a peaking facility to supply power to Connecticut on a long-term basis through a fifteen year contract with Connecticut Light and Power Company ("CL&P"). In its Decision issued May 3, 2007 in Docket No. 05-07-14PH02, *Investigation of Measures to Reduce Federally Mandated Congestion Charges* ("FMCCs"),<sup>2</sup> the DPUC selected the Waterside Project as one of the winning bidders to provide new capacity to Connecticut and reduce the impact of FMCCs to Connecticut ratepayers. The statute is clear that, as a winner of this RFP process, Waterside is eligible for the petition process. Specifically, Section 16-243m(g) of the General Laws provides that "projects approved pursuant to this subsection are eligible for expedited siting pursuant to subsection (a) of section 16-50k." The only expedited permitting referenced in subsection (a) of Section 16-50k is the petition process.

## **II. FACILITY OPERATIONS**

6. The design of the permanent configuration of the Waterside Project is similar to the design of the temporary facilities with the addition of certain fuel facilities which ensure that the operation will be available as needed to operate in the markets on a long-term basis. The Waterside Project will continue to utilize three General Electric ("GE") TM2500 turbine generator units. Each unit is rated at 23.2 MW at 90-degrees Fahrenheit. Waterside has asserted

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<sup>2</sup> On August 22, 2007, the DPUC approved the Master Generation Agreement between CL&P and Waterside Power by its Final Decision in Docket No. 07-04-24.

that the turbine units have proved to be reliable, environmentally sound, dispatchable in 30 minutes and relatively simple to operate and maintain.

7. In addition, the Project has a black start generator which allows the units to be available if there is a loss of power on the local distribution system. With black-start capability, the Project can provide system support, ensuring electrical service can continue with minimum interruption.

8. The turbine generator units and ancillary equipment are already on the 5.8 acre site and interconnected with the existing CL&P substation located adjacent to the site. Each unit consists of four trailers: the turbine generator trailer; inlet filter trailer; exhaust trailer; and auxiliary trailer. All equipment is enclosed within a sound insulated trailer exterior. Each four-trailer unit has a small footprint, only requiring an area of approximately 103 feet by 70 feet. The maximum height of unit structures is 29.5 feet with the addition of the exhaust silencers installed to minimize noise impacts as approved by the Council in Petition 772. Two fuel oil storage tanks will replace the five smaller tanks that are currently used to support operation. Additional site changes for permanent operations will include the use of two adjacent shelter enclosures rather than a single shelter enclosure for the combustion turbines and the addition of additional soundproofing mitigation for each of the three combustion turbines.

9. The most significant change in the site plan and operations necessary to convert the facility to permanent operations is the replacement of the five existing 20,000 gallon liquid fuel storage tanks with two new storage tanks capable of holding a combined capacity of 252,000 gallons and a related small pump building. The overall impact of these new tanks will be minimized by placement in a location furthest away from the nearest residences and incorporating enhanced fire protection, spill prevention and containment measures.

10. The combustion turbine units will continue to be fueled by ultra low sulfur fuel oil. The new sulfur values will be 0.0015% rather than the currently permitted 0.003% by weight. The air permit applications provided with Mr. DiCristofaro's pre-filed testimony reflect the lower sulfur value. The units will continue to use water injection to reduce emissions of nitrogen oxides ("NO<sub>x</sub>") to 42 parts per million ("ppm") or less on a dry basis at 15% O<sub>2</sub>. Fuel oil and demineralized water for water injection will be stored on site in two oil tanks and two water tanks with piping to each unit to support operation. Fuel oil will be delivered to the site via tanker trucks. Water will be supplied to the Project site via the existing water supply system serving the site. The minimal quantities of sanitary and facility wastewaters generated will be containerized and trucked off-site for proper disposal.

11. Output from the units will be generated at 13.8 kilovolts ("kV") and stepped up to 115 kV by an on-site generator step up transformer. The high voltage output will be transmitted to the CL&P 115 kV Waterside Substation located immediately adjacent to the Project site. On June 7, 2006, the Council approved modifications to the substation to provide Waterside with a permanent connection to the interstate transmission system. The substation changes provided Waterside with the ability to operate year-round. See Petition 768.

12. The Project site is located in Stamford, Connecticut on approximately 5.8 acres. Prior to the installation of the Waterside Project in 2002, a 160,000 square foot ("sq. ft.") industrial building was formerly located on the site, which was demolished in the fall of 2001. The site is directly bounded on the west by the Stamford Executive Park, to the south/southeast and east by Metro North/AMTRAK rail lines, to the northeast by the NU Waterside Substation, and to the north by a small residential enclave. The site and surrounding areas to the northwest, west,

south, east and northeast are all zoned M-G (General Industrial District). The residential area to the north of the site is zoned R-6 (residential).

13. The site is located in the Waterside section of southwest Stamford and is isolated from the remainder of the City to the north by the interstate Highway 95 (I-95) transportation corridor and to the east by the West Branch of the Stamford Harbor. The entire Waterside neighborhood and adjacent South End Neighborhood are included in the Stamford Enterprise Zone, which was formed in late 1993 in part to promote industrial and business recruitment and retention.

14. Landscaping has been done at the site to minimize impacts to the surrounding neighbors. An earthen berm topped by a wooden fence is located between Amelia Place and the facility, screening views of the equipment from the residential neighborhood. A mix of trees including white pine, oak and sugar maple is north of the fence providing further buffer and a park-like setting.

### **III. REQUIREMENTS RELATING TO PUBLIC NEED AND BENEFIT**

15. The Project was originally developed in response to a concern that existing generation and transmission within the load zone located with Southwest Connecticut (“SWCT”) was not capable of supplying electric load during extremely hot summer weather without overloading lines or causing severe low voltage conditions. The reliability needs for peaking support to meet loads during times of high demand have persisted since 2002, leading to significant legislative activity in the last five years including the mandate for the DPUC to take specific actions including its recent RFP for long-term resources. Pursuant to Public Act No. 05-01, An Act Creating Energy Independence (“EIA”), for the purposes of §16-50p(c)(1), the DPUC’s approval of a contract for a project through the most recent RFP establishes a rebuttable presumption for

siting purposes that the facility would provide a public benefit as defined in §16-50i (a)(1). This presumption applies to the proposed Waterside Project as a permanent peaking facility.

16. Other statutory changes also apply to the Waterside Project as proposed in this Application. Pursuant to Conn. Gen. Stat. §16-50p(c) (3), a project will be found to have a public benefit if it is necessary for reliability of the electric power supply of the state or for the operation of a competitive market and fulfills a public need if such facility is necessary for the reliability of the electric power supply of the state. Thus, the Waterside Project as selected by the DPUC in all its resource competitive bidding process, provides a public benefit to Connecticut and fulfills a public need for a reliable electric supply in Connecticut.

17. Waterside was selected as one of the four winning bidders out of more than 20 bids filed with the DPUC as part of an all resource selection process. The portfolio of four projects was selected by the DPUC and its consultant, London Economics International, LLC (“LEI”) as producing the greatest net benefits of \$509 million (not including energy savings) and weighted average net benefits of \$521 million or \$791 per kilowatt (“kW”) when including energy savings benefits. The Report prepared by LEI and submitted in the Petition, noted that the portfolio chosen met many of Connecticut’s policy objectives in selecting new long-term projects including improving system reliability. LEI tested system reliability improvements with the addition of the four projects by the ability of the portfolio to reduce system outages under system stress conditions. The LEI Report concluded that the portfolio “augments the amount of overall generating capacity in the state, reinforcing system-wide transmission security and providing for more permanent fast start resources.” LEI also determined that the portfolio minimized congestion costs and was procured at the lowest reasonable cost possible.

18. The Report also provided on a stand-alone basis for the projects and in comparison to other bids in its resource category in addition to the portfolio combinations. The Waterside Project was one of two of the peakers selected as part of an overall portfolio which produced the largest net benefits to Connecticut ratepayers and was the lowest cost peaker among the total of six peaking final bids submitted. At page 34 of the Report, the Waterside Project was described as the strongest peaking project “due largely to its lower than average contract costs.” LEI estimated its weighted average net benefits of \$48 million or \$729/kW. At average costs of \$6 million or \$94/kW, Waterside had the lowest costs. Average net benefits were estimated at \$48 million or \$729/kW or \$63 million or \$957/kW when an economic valuation of other factors including environmental benefits were included.

#### **IV. FORECASTS OF CONNECTICUT LOADS AND RESOURCES**

19. In the CSC’s Report on the Ten Year Forecast of Connecticut Load and Resources (“CSC Report”), the CSC noted Waterside’s selection by the DPUC as a long-term resource. At page 12, the Council also noted the current temporary facility’s inclusion as part of ISO-NE’s existing seasonal claimed capability report for June 2007. Waterside’s continued contribution as a quick start resource is critical for maintaining reliability in SWCT and Connecticut.

20. The CSC Report focuses on summer peak loads and the continued growth in peak loads predicted by CL&P and the ISO. The CSC Report adopts the need for 1,200 MW for Connecticut estimated by the ISO in its 2006 Regional System Plan (“RSP”). The Council also notes the need for significant quick-start generation in SWCT at page 24. Waterside’s ability to provide quick start capacity to SWCT and Connecticut will continue to remain necessary to meet the needs identified in the Council’s 2007 Report.



21. The Connecticut Energy Advisory Board (“CEAB”) in its 2007 Energy Plan focuses on peak load issues, noting that the shortage of electrical capacity could have a significant economic impact in the state’s immediate future. “The current growth in the state’s peak demand for electricity has long-term economic and environmental consequences for Connecticut. In August of 2006, Connecticut set an all-time record electric peak, using more than 7,700 megawatts of capacity.” Later, the CEAB states that despite efforts to reduce coincident peak demand, the record 2006 summer peak was 7% higher than the prior year’s record peak. CEAB State Energy Plan at page 7. In its Electricity Supply Recommendations, the CEAB supports the use of quick-start generation resources. The CEAB states that these resources will satisfy the system wide requirements for Connecticut and load pocket needs, make more efficient use of existing transmission and generation infrastructure and save consumer capacity and congestion costs. CEAB State Energy Plan at 20. Thus, Waterside’s permanent proposal would help to meet the CEAB’s goals for Connecticut’s energy future.

## **V. COST REDUCTION BENEFITS**

22. The Independent System Operator - New England (“ISO-NE”) applied for expedited approval from the Federal Energy Regulatory Commission (“FERC”) to create a new market to enhance the reliability of electric service in heavily congested areas such as SWCT. This new Locational Forward Reserve Market (“LFRM”) recognizes the greater need for operating reserves in areas that are transmission constrained in the event of the loss of a first or second contingency element, such as the loss of a generating unit or transmission facility.

23. Waterside qualifies as an LFRM resource since the facility has the appropriate environmental permits, metering and communications systems and is available for operation within 30 minutes of notice during the hours from 7:00 a.m. to 11:00 p.m. Monday through

Friday, excluding holidays. LFRM units also offer operational flexibility and improve the reliability of critical load pockets such as SWCT. The ISO-NE has focused on the need for quick-start LFRM units to reduce overall system costs. By reducing overall system costs, costs to Connecticut ratepayers will be reduced through Waterside's participation in the LFRM market.

## **VI. LOCAL APPROVALS AND INFORMATION OUTREACH**

### **City of Stamford Zoning Board of Appeals**

24. Waterside has received approval from the City of Stamford Zoning Board of Appeals ("ZBA") for the changes necessary to convert the current operations into permanent peaking status. The certificate of the ZBA decision was provided as an attachment to Mr. Roberts's prefiled testimony.

### **Waterside's Community Outreach**

25. As Mr. Roberts has testified, Waterside has met with City of Stamford officials to inform them of Project developments and plans with reports concerning the public need and benefit of the Waterside Project. Waterside has provided information on the Project to the Mayor of the City of Stamford as well as representatives from the City of Stamford City Council, Health and Safety Department, Fire Department, Building Inspections and the Corporation Counsel. Waterside has also met with members of the Legislature representing the Stamford area. Mr. Michael Freimuth, Director of Economic Development for the City of Stamford appeared at the public hearing held by the Council on March 6, 2008 and expressed strong support for the Project on behalf of the City and noted Waterside's active cooperation with the neighboring community. Tr. 1 at pp. 7-8.

26. As Mr. Roberts testified, Waterside has engaged in numerous activities to inform and receive feedback from the local community and citizens regarding issues relating to the

Waterside Project. Among other community groups, Waterside has met with the ABBDS, the Stamford Partnership and the Waterside Coalition. Since early May 2002, representatives of Waterside have met regularly with the Project's neighbors. As part of this process, Waterside attends monthly community group meetings. Waterside has sponsored site visits by neighbors in the past. Mr. Costello, head of the Waterside Coalition, submitted a letter supporting the Project to the ZBA which was submitted as part of Waterside's response to the Council's first information request. Mr. Mercky Valdez, a member of the Beautification Committee and Zoning Committee appeared at the evening public hearing expressing his support for the Project and the community efforts made by Waterside since 2002. Tr. 2, pp. 9-10.

## **VI. DESCRIPTION OF ENVIRONMENTAL IMPACTS OF PERMANENT OPERATIONS**

27. Site Selection Process. Waterside's original site selection process incorporated the following threshold criteria:

1. A proposed site location with the possibility of acquiring the necessary land rights.
2. A proposed site location in a municipality in SWCT and specifically, in the Norwalk sub-area.
3. A proposed site location in a municipality where electric substation and transmission lines are located in close proximity to the site.
4. A proposed site that is zoned to promote industrial and business recruitment and retention, such as for the proposed facility.
5. A proposed site location with a low risk for soil contamination or other environmental remediation requirements.
6. A proposed site that was once used for an industrial facility.
7. A proposed site location with sufficient land to install the generator turbine units, and appropriate buffer.
8. Availability of sufficient water at a proposed site that would enable operation of the proposed facility to begin quickly.
9. The geology of the proposed site must accommodate the development of an industrial project of this type, i.e., no soil with potential for differential settling.
10. No apparent structures of archaeological or historical significance at the proposed site.
11. No apparent threatened or endangered species or their habitat at the proposed site.

Through the application of the criteria, the selected site for the Waterside Project was determined to be optimal for Project development for permanent operations. With the existing infrastructure in place to serve the temporary facility, Waterside's location as a permanent facility optimizes the use of the existing site and infrastructure to meet the continuing need for peaking facilities in Connecticut.

28. Noise. A Project noise assessment was provided with the Petition. The site is located within a mixed-use area where the primary uses are industrial and commercial. The site is immediately adjacent to an active rail line and is located approximately ½ mile south of I95, a major transportation artery. These are the major sources of background noise for the facility and its neighbors. Ambient noise levels are consistent with an urban setting. The trailer mounted turbine generator units and ancillary equipment are designed to minimize noise. The turbines are installed at the lowest site elevations and the greatest distance from residential properties to the north. All equipment is enclosed within the trailer housing and stack silencer inserts were included pursuant to a condition of the ZBA Special Exception. Due to the small footprint of the units as compared to the overall site size, the units are located in the southern portion of the site to mitigate potential noise impacts on surrounding areas. An earth berm topped by an eight-foot solid wood fence and the addition of landscaping further insulates neighbors from noise. An additional wooden structure similar to those used to minimize highway noise is being added to the existing noise mitigation measures taken for each turbine generator unit to maintain lower levels with the slight change in site configuration<sup>3</sup>. The noise analysis determined, using acoustic modeling procedures, that the facility would meet all applicable noise standards. See

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<sup>3</sup> Waterside was asked to supply power on September 1, 2007 when ISO-NE instituted OP-4 measures. Since September 1, 2007 was a Saturday, Waterside did not run. However, in recognition of the increasing potential to be asked to dispatch during weekend hours as well as evening time periods, Waterside seeks to ensure that the Project can be dispatched at any time if called upon and remain within acceptable noise parameters for its closest neighbors.

Tr. 1 at pp. 26-27. Thus, potential noise impacts from the Project will not cause a significant adverse effect to the surrounding area.

29. Health & Safety. Installation and operation of the minor additional changes to the Waterside Project will be designed and managed to ensure maximum safety for employees and the surrounding community. All installation and operation activities and equipment for the Project will be in accordance with good engineering practice and Federal, state and local regulations, and will comply with the latest editions of the regulations of all-applicable governmental agencies and engineering associations. Liquid fuel, water, and any chemicals or other hazardous materials necessary for Project operation will be appropriately contained to prevent release. In particular, liquid fuel will be stored on site in two 126,000-gallon, double-walled storage tanks with a foam fire protection safety system as a further improvement to the existing safety precautions.

30. Emergency Planning. Safety and emergency systems will be implemented to ensure safe and reliable facility operation. The Project site has been enclosed by a security fence. The Project has adopted an Emergency Action Plan (or "EAP") with revisions for the proposed Project Modification and included with the Petition. The Plan includes information on emergency operations and shutdowns, safety warning systems, emergency response personnel and duties, employee protection, training and drills. The EAP covers designated actions employees and employers must take to ensure employee safety from fire and other emergencies.

The following elements are included in the EAP:

- (i) Emergency escape procedures and emergency escape route assignments;
- (ii) Procedures to be followed by employees who remain to operate critical plant operations before they are evacuated;
- (iii) Procedures to account for all employees after emergency evacuation has been completed;
- (iv) Rescue and medical duties for those employees who are to perform them;

- (v) The preferred means of reporting fires and other emergencies; and
- (vi) Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.

31. Traffic. The Waterside Project is located approximately ½ mile from I-95, the primary interstate highway along the eastern seaboard of the United States. A highway interchange provides direct access from the interstate to West Avenue, the access road to the Stamford Executive Park located to the immediate west of the proposed site. The proposed facility's initial main entrance was moved to West Avenue, to provide access to the Project site through an adjacent industrial park and avoid the nearby residential community. These roadways are adequate for all deliveries to support operation of the turbine generator units. Moreover, Waterside funded the installation of speed bumps on residential streets to address long-standing traffic concerns of the Project neighbors.

32. Temporary Traffic Related to Construction. Reconstituting the permanent Project will not result in adverse traffic impacts on area roadways. Deliveries of liquid fuel and related equipment will be required. Construction of the fuel tanks will be done on-site. As the turbine units are already on site, the traffic related to installation and temporary additional work force will be minimal. Deliveries of the fuel storage tanks and equipment will be coordinated to avoid peak traffic conditions, to the extent possible.

33. Traffic Related to Fuel Deliveries. During operation, liquid fuel deliveries will be required periodically to maintain adequate fuel storage on site. It is anticipated that a 40-hour supply will be maintained on site in two 126,000-gallon storage tanks. Delivery will be via tanker trucks with a maximum delivery load of between 6,200-6,500 gallons per truck (based on weight restrictions). Assuming Waterside operates during all peak load hours, then a maximum of 32 truck trips per day (16 round trips) to refill the storage tanks may be required. Deliveries

will be scheduled to avoid peak traffic conditions. Operational personnel trips will be insignificant, as the site will be manned by two to three full time people.

34. Water Supply and Deliveries. In addition to liquid fuel, approximately 40,000 gallons of water (an 8-hour supply) will be stored on site for water injection to control oxides of nitrogen (“NO<sub>x</sub>”) emissions. An adequate interconnection with the local water system is already in place from the site’s existing use. A new fire hydrant will be installed. The water demand for the Project will be quite minimal as the Project will utilize air cooling for the gas turbine generator units and is a simple-cycle design. Water demand for each unit will be limited to approximately 1,625 gallons per hour.

35. Turbine Operations. The GE TM2500 units that are in use have proved to be reliable and environmentally sound, and are easy to dispatch, operate and maintain. The turbine generator units and ancillary equipment are trailer mounted on four trailers designed to be driven onto the site, interconnected with the existing substation, and then disconnected after completion of operation. Moreover, the four-trailer unit has a small footprint, only requiring an area of approximately 103 feet by 70 feet. The GE TM2500 units on the Waterside site are fueled by ultra low sulfur liquid fuel.

36. Federal Aviation Administration Determinations. Because the height of unit structures do not exceed the Obstruction Standards of Federal Aviation Regulations, Part 77, a determination of no hazard to air navigation from the Federal Aviation Administration is not required.

37. Fuel Source Information. The Project’s liquid fuel will be supplied by Sprague Energy. Because liquid fuel will be delivered via truck, the Project will not utilize any pipelines or infrastructure to provide fuel for the facility. The Project has operated on liquid fuel since its

inception. Because liquid fuel is more reliable and cost effective than natural gas for this particular Project, Waterside expects to continue to utilize liquid fuel.

38. Consistency with Regional Water Supply and Watershed Protection Plans. As noted above, the Waterside Project will utilize air cooling for the turbine generator units. Therefore, there will be no use of diverted water for cooling or other facility uses. Instead, the minimal water required for the Project is consistent with the water supply to the City of Stamford. No permits or approvals are required for this water use and adequate supply and infrastructure is available to supply the Project.

39. Stormwater Management Plan. The Project operates pursuant to a combined Spill Prevention Control and Countermeasure/Stormwater Pollution Prevention Plan which is being updated for the new fuel system design.

40. Electric And Magnetic Fields. The proposed site is well suited for the Project and the effect of the proposed permanent facility on existing electric and magnetic fields (or “EMF”) levels outside the site will be minimal.

*a. Sources*

The potential sources of EMF are: generators; generator leads; transformers; and a three-phase 115-kV interconnection to CL&P’s Waterside Substation. All four sources are located within the industrially-zoned property of Waterside and CL&P.

The design and location of the generators, leads and transformers on the Waterside site precludes them from having a significant effect on field levels outside of the property boundaries. The contribution of the 115-kV interconnection to higher background field levels off-site was evaluated by modeling because of its length and location along the eastern border of the Waterside property.



*b.      Locations*

Locations where EMFs are significantly increased by the interconnection will be entirely contained within the combined Waterside/CL&P properties. At the northern edge of the site, the EMF levels of the interconnection as built are estimated to be approximately 0.031 kV per meter (“kV/m”) and 2.6 milligauss (“mG”), respectively. These values are well below the 6 mG standard for Electric and Magnetic Field Best Management Practices for transmission facilities recommended by the Department of Public Health in recent proceedings before the Council. At residences about 210 feet in the north of the interconnection across Amelia Place, the maximum EMF levels are estimated to be 0.012 kV/m and 1.3 mG, respectively. These levels are comparable to or less than those measured near numerous other commonplace sources. For example, at automatic teller machines (“ATMs”), magnetic field levels are measured at 120 mG, and magnetic field levels measure at 36 mG in fast food restaurants.

*c.      Compliance*

The proposed facilities will be designed and operated to meet the requirements of the National Electrical Safety Code.<sup>4</sup> Furthermore, the facilities will comply with appropriate elements of the Council’s Electric and Magnetic Field Best Management Practices. The proposed Project meets the fundamental goal of the Electric and Magnetic Field Best Management Practices as the design and location of the Project minimizes the EMF fields produced as well as the opportunity for public exposure to fields. The Project will be compatible with practices recommended by the Council for responding to anticipated changes in ambient EMF levels and will not significantly increase levels outside controlled utility properties. The Waterside Project will not have any adverse environmental effect on EMF levels.

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<sup>4</sup> Institute of Electrical and Electronics Engineers (“IEEE”). National Electric Safety Code. IEEE Standard C-2, 2002.

41. Air quality.

*a. DEP Permit Requirements.*

The Waterside Project complies with all applicable Connecticut and Federal air quality requirements and the units operate in accordance with conditions in its three individual New Source Review ("NSR") permits issued on July 7, 2004 by DEP. These NSR permits expire on July 7, 2009. Under DEP's regulations, the facility can operate until new permits are issued. Waterside provided copies of its new applications related to the permanent operation of the facilities as an attachment to Mr. DiCristofaro's prefiled testimony. The certified copy of Waterside's Title V operating permit was received on June 9, 2006. The Title V permit (No. 172-02360-TV) will expire on June 9, 2011 requiring a new application filing by June 9, 2010. As with the NSR permits, Waterside can operate under its existing permit until a new permit is issued by DEP.

1. Nitrogen Oxide ("NO<sub>x</sub>") Emission Levels

The Project utilizes water injection to reduce NO<sub>x</sub> emissions to 42 ppmvd at 15% O<sub>2</sub> or less. In particular, total emissions of NO<sub>x</sub> and VOC will be less than the 25 tons per year ("TPY") major source thresholds for these pollutants defined at § 22a-174-1(57)(A) for sources located in areas designated as severe nonattainment with respect to the 1-hour NAAQS for ozone, such as this portion of Fairfield County. 40 CFR § 81.307.

The Project meets the New Source Performance Standards ("NSPS") limitations for a stationary gas turbine used for electricity generation, at 40 CFR 60, Subpart GG. The NSPS places restrictions on emissions of NO<sub>x</sub> and sulfur dioxide ("SO<sub>2</sub>"). NO<sub>x</sub> concentrations in the flue gas for turbines with heat inputs at peak loads greater than 100 MMBtu/hr are limited to a nominal value of 75 ppmvd at 15% O<sub>2</sub>. The Project's guaranteed maximum NO<sub>x</sub> emissions of

42 ppmvd at 15% O<sub>2</sub> or less during liquid fuel firing, and actual reported NO<sub>x</sub> emissions of 37 ppmvd at 15% O<sub>2</sub>, are well below the nominal NSPS limit of 75 ppmvd at 15% O<sub>2</sub>.

## 2. Sulfur Dioxide ("SO<sub>2</sub>") Levels

Under the NSPS, SO<sub>2</sub> is limited to 150 ppmvd at 15% O<sub>2</sub>, and fuel sulfur content is limited to less than 0.8 percent by weight. The Project will meet these criteria by using ultra low sulfur distillate liquid fuel with a sulfur content no greater than 0.0015 percent sulfur by weight (i.e., 15 ppm). Fuel sulfur content for the Project will therefore be well below the NSPS requirements.

## 3. Other Control Requirements

Pursuant to 40 CFR 72.6, the Project is not subject to the EPA Title IV acid rain program. DEP regulations at R.C.S.A. § 22a-174-18 limit PM emissions from new fuel burning equipment to a rate of 0.10 lb/MMBtu and opacity to less than 20 percent. The Project's PM emissions are only 0.01 lb/MMBtu. Opacity emissions will be well below 20 percent. The DEP regulation § 22a-174-19 limits fuel sulfur content to less than 1 percent for new fuel burning equipment. The Project will fire ultra low sulfur liquid fuel with 0.0015 percent sulfur. DEP regulation § 22a-174-22 limits NO<sub>x</sub> emissions from new combustion turbines greater than 100 MMBtu/hr heat input to 55 ppmvd at 15% O<sub>2</sub> for gaseous fuel and 75 ppmvd at 15% O<sub>2</sub> for liquid fuel. The Project will limit NO<sub>x</sub> emissions to 42 ppmvd at 15% O<sub>2</sub> or less, guaranteed, but has reported an average of 37.1 ppmvd at 15% O<sub>2</sub> to the DEP based on actual test data from August 21 and 22, 2002.

The DEP regulates emissions of Hazardous Air Pollutants ("HAPs"), as defined in R.C.S.A. § 22a-174-29. The Project will emit several pollutants identified as HAPs. The DEP requires that new sources of air pollution discharge all Connecticut listed HAPs at concentrations less than the maximum allowable stack concentration ("MASC"). Procedures for calculating the MASC, based on the stack height, distance to the property line, and the Hazard Limit Value for

the compound in question, are contained in the aforementioned regulation. The requirements are based on short-term (8-hour) emissions. With the above-described pollution controls, the Project will be in compliance with the MASC for all regulated compounds as indicated by the MASC calculations provided in Attachment J of the Petition.

#### 4. Air modeling Results

The impacts of a proposed emission source on ambient air quality are estimated using dispersion models, which predict how pollutants are transported and dispersed between the source and receptors. For air permitting, the purpose of a modeling analysis is to determine whether the impacts of the proposed source, in combination with other nearby sources, will produce air quality consistent with ambient standards and increments.

Because the Project units will only operate under the Permit requirements noted above and with aggregate emissions well below major stationary source thresholds, there will be no substantial adverse environmental effect from the Project's air emissions. The project recently received a favorable unannounced audit from the DEP's enforcement arm, verifying compliance with DEP regulations.

42. Site contamination. Over the last ten years, a remediation project was conducted and completed at the site as a result of the former manufacturing operation (plating) present at the site prior to 1987. The previous property owner received a No Further Action letter from the DEP at the end of February 2002. A No Further Action letter indicates that all required remediation activities on site have been completed. No obvious signs of site contamination were visible on the Project site prior to initial installation in 2002. The site surface appeared clean and no staining of site soils was evident.

Based on the apparent completion of necessary site remediation activities and absence of the need for soil disturbance for continued Project operation, the Project will have no significant adverse impact on natural resources.

43. Compatibility with existing and future land uses.

*a. Allowed Use*

The site for the Waterside Project is approximately 5.8 acres in size and was vacant prior to installation in 2002. Until the fall of 2001, the site was occupied by a 160,000 sq. ft. industrial facility that was then demolished. Public utility generating plants and bulk petroleum storage are allowed uses in the applicable zoning district. The Waterside Project will continue to comply with the maximum building height in this district of fifty (50) feet.

*b. Compatibility with Zoning and Development Plan*

Redevelopment of the site for industrial purposes is wholly compatible with its historic use, surrounding uses, and City of Stamford zoning and development plans for the site area. As discussed above, the ZBA has granted Waterside a Special Exception which allows the permanent operation of the facility. The Waterside Project will not alter the character of the area. Thus, no adverse impacts to land use or zoning will occur from the operation of the Waterside Project.

*c. Adjacent Land Uses*

The Project will not have a substantial adverse environmental effect on adjacent land use. The site is surrounded on almost all sides by existing industrial, commercial, utility or transportation uses. The Waterside Project is wholly compatible with the site's historic use and the surrounding uses. The site is located within the Stamford Enterprise Zone, an area designated to promote industrial recruitment and retention. In particular, the site and

surrounding areas in all directions, with the exception of the residential enclave to the immediate north, are zoned M-G (Stamford's general manufacturing zone). Numerous measures have been implemented to minimize or eliminate any possible impact the Project might have on the residential enclave. The new fuel storage system will relocate fuel operations to an area further from the nearest residential areas. Therefore, the Project will have no substantial adverse impacts on adjacent land use.

44. Ecological Integrity. The parcel is a previously disturbed former industrial facility, with no wetlands on site, minimal vegetation, and no endangered or threatened species. Thus, there are no valuable ecological features on the site, which is one of the reasons it was selected. Stormwater is managed on site during operation to ensure runoff quality and quantity are consistent with existing conditions. There is an existing system of stormwater catch basins on site from the previous use, which are utilized by the Project. Waterside upgraded the stormwater system with an oil/water separator. Appropriate erosion and sediment control measures have been established to protect the off-site wetland area. The Project will operate in accordance with an updated combined Spill Prevention Control and Countermeasures/Stormwater Pollution Prevention Plan developed early fall of 2007. Therefore, the Project will have no substantial environmental effect on ecological integrity.

45. Recreational Interest. Existing recreational resources will not be adversely impacted by the Project. The site is surrounded on almost all sides by industrial, commercial, utility and transportation uses and does not contain any such areas.

#### 46. Geologic Interest

##### *a. Types of Soil*

There are no areas of geologic interest. Mapping of surficial geology in the site area identifies the site as underlain by till. Information about site geology is presented to the CSC in Petition 617E. Till is defined as unconsolidated mineral soils consisting of a mixture of clay, silt, sand, gravel, and boulders. Soils mapping for the site area identifies the site as Urban Land. Urban Land is defined as built up areas of level to steeply sloping fill material overlying native surficial geology deposits. These soils are typically moderately to well drained.

##### *b. Seismic Risk*

The geology of a given area dictates the degree to which a proposed development is at risk from natural phenomena such as seismic activities, landslides, slumping, wasting, liquefaction and karst-related subsidence. Landslides and areas of creep/slump are generally a function of steep topography, depth to bedrock and groundwater, availability of surface runoff, and bedrock fracturing and angle of dip. The conditions necessary to produce the majority of aforementioned hazards are absent at the Project site. Moreover, no seismically active faults have been identified at the property or nearby.

##### *c. Grading and Paving Activities*

Waterside conducted limited site grading of the portion of the site on which the equipment is located which further screens the Project from view. There will be additional grading and impervious surfaces for the areas related to the new fuel tank installations and the delivery of fuel to that location. With the landscaping plan developed by Waterside, these very limited impacts will be necessary for the Project's permanent operation. With the existing foundations for the trailer mounted units (crushed stone topped by steel plates, or equivalent), the

Project will have no significant adverse effect on the existing site soils or geology and will have minimal risk from a seismological event.

47. Visual Impacts.

*a. Project Design Measures*

The Project site is located on a 5.8 acre property, surrounded on almost all sides by industrial, commercial, utility and transportation uses. The surrounding rail line, substation and office uses are all buffered by mature trees. Due to the Project's low profile, the small size of the trailer mounted generating units, the significant setback from the street, the site grading plan and use of screening fencing, only four homes immediately across the street from the site would have any views of the permanent units, but these views are blocked by the earthen berm and fencing. This installation has significantly less impact on these homes than the prior installation at the site (a 160,000 sq. ft. industrial facility directly on the street with no earthen berm or residential style fencing in place). The Project has a small footprint, each unit requiring only an area of approximately 103 feet by 70 feet. On-site structures comply with local zoning regulations.

*b. No Scenic Impact*

The Project's potential visual impacts were considered in the design and placement of the Project structures. One consideration in siting the facility was to select a site from which visual impacts resulting from the Project would be minimal. The proposed site was selected in part due to the fact that the surrounding industrial areas and trees significantly buffer the Project from three sides. Furthermore, by selecting a disturbed industrial area, the Project displaced no existing scenic resources.



c. *Visual Mitigation*

The Project has also incorporated design measures to minimize visibility. The Project footprint has been designed to be as compact as possible, utilizing only a fraction of the site. The Project was also designed to insure that the facility will fit in with the existing landscape to the maximum extent possible. Aerial photos as well as photos from different vantage points at ground level were supplied with the Petition.

d. *No Adverse Impact*

Due to the existence of obstructions, and the fact that the Project will be designed to minimally impact the aesthetic qualities of the surrounding area, the Project does not significantly impact the existing viewsheds in any direction. Given the small size of the Project and the industrial nature of the surrounding land uses, the Project will not have a substantial adverse effect on visual resources.

48. Wetlands and Watercourses. The Project site is not located within either the 100 or 500 year floodplains or the coastal zone. Further, there are no surface water bodies or wetlands located on the site. As shown in a hydrography map provided as Attachment O to the Petition, a field survey was conducted to determine the presence or absence of wetlands on the site, as defined by the Federal Army Corps of Engineers ("ACOE") or the State of Connecticut. The ACOE specifies a three-parameter approach to identifying wetlands, whereas the State of Connecticut defines wetlands based solely on the presence of hydric soils. No hydric soils are mapped on the proposed site. A small area containing hydric soils and ACOE wetlands is located immediately off-site to the south. This area contains a small, low-quality, possibly intermittent watercourse that discharges from the on-site storm drain system from an approximately 30" culvert along the southern edge of the site. Because the Waterside Project has

no water discharge, it will have no substantial adverse environmental effect on the off-site wetland.

49. Wildlife and vegetation, including rare and endangered species, critical habitats, and species of special concern. The entire site has been previously developed, and contained minimal vegetation (*e.g.*, grassed landscape islands). Due to the building demolition, most remaining landscape vegetation was removed or disturbed. Areas around the perimeter of the site and cracks within the pavement contain common grasses and weed species. The site, consisting mainly of pavement and disturbed areas, supports minimal wildlife; wildlife species occurring on the site are mostly common, urban and suburban species passing through the site to adjacent areas which contain food sources and cover.

Based on a review of the DEP Natural Diversity Data Base map, no mapped locations of Federal or State listed species or natural communities occur on or in the immediate vicinity of the proposed site. Further, no listed species were observed on the site. As noted above, the site was vacant and largely unvegetated prior to initial Project installation. No water bodies or wetland areas are located on the Project site and the site is surrounded on all sides by existing industrial, commercial, utility, transportation or residential development. As such, it is not likely to provide habitat for any but occasional transient individuals from species which have adapted to living in urban environments. Therefore, the Project will have no significant adverse impact on protected species or habitats.

50. Public water supply watershed and aquifer areas. Groundwater in the site vicinity will not be impacted by the permanent installation and operation of the Project. Because the units are operated on a tractor-trailer system, no major excavation of soils is required for installation of the units. No wastewaters will be discharged on site. Sanitary wastes for the small number of

personnel required for Project operation will be handled by temporary portable sanitary facilities. These facilities are maintained under contract with a local, licensed septage hauler. Any limited quantities of wastewater generated during unit operations or maintenance activities will be containerized and trucked off-site for disposal at an appropriate facility. Any chemicals or other hazardous materials (such as liquid fuel) necessary for facility operation will be contained to prevent release to the environment. Based on the above, there will be no significant adverse effects on water resources or wetlands from the temporary operation of the Project. The Project utilizes air cooling for the turbine generator units. In addition, because the Project is a simple-cycle design, no water is required for cooling a steam cycle. Consequently, Project water demand is minimal. Water will be provided to the Project by Aquarion, a private water company which supplies water to the City of Stamford. The water is available from an existing eight-inch service line which was reactivated for this Project. There is a temporary above ground interconnection from the service line to a rented portable demineralizer. Demineralized water is used to control NO<sub>x</sub> emissions from the Project to 42 ppmvd at 15% O<sub>2</sub> or less. Water demand for each Unit is limited to approximately 1,625 gallons per hour. On-site storage is sized to provide sufficient water for eight hours of continuous operation of the facility (approximately 40,000 gallons). This use is totally consumptive. No permits or approvals were required for this water use, and adequate supply and infrastructure are available to supply the Project. Therefore, no substantial adverse environmental effect will occur from the Project's water use.

51. Archaeological and historic resources. A Phase IA cultural resource survey was conducted for the Project site and presented in the record of Petition 617E. Because the site has been used for industrial purposes and has previously been disturbed by construction and

demolition, the site is considered to have a low sensitivity for cultural resources. No evidence of cultural resources was found during the Phase IA site walkover.

No existing historic structures are located on the site or in its immediate vicinity. Due to the limited size/height of the Project units, the Project will not impact the potentially historic structures in the broader Waterside and South End sections of Stamford. Because the soil has been disturbed by prior construction, it is highly unlikely that any archaeological resources exist at the site and none were found during installation. Further, because the areas surrounding the site are fully developed, it is also highly unlikely that any archaeological resources exist in the immediate site vicinity. Therefore, the Project will have no substantial adverse environmental effect on cultural or historic resources.

## **VII. MITIGATION MEASURES**

In addition to designing the Project to ensure that there are no substantial adverse environmental effects, Waterside has also implemented various improvement measures over the term of its temporary operations including the installation of erosion and sediment controls and equipment as well as place berms and vegetation for noise attenuation and is including additional silencing protection in this Petition.

Waterside has employed additional mitigation measures as well. For instance, Waterside has installed a residential style fence and expanded the berm under the 115 kV line on the site for further noise and visual impact mitigation. Moreover, at the request of the local community, Waterside funded the installation of speed bumps on local residential streets to address long-standing traffic concerns of the Project's neighbors. A landscaping and lighting plan was developed in conjunction with ABBDS and the Waterside Coalition. Waterside also relocated

the entrance of the Project so that the Project traffic avoids the residential community and instead, traverses through an industrial area.